# Local Internet Interconnection
# - The German Situation -

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# The German Internet Market shows impressive results

Germany belongs to the leading „Internet Nations“ worldwide:

- Internationally competitive retail prices
- Strong Internet Usage
- Internet Penetration improved, still some way to go

# Fundamental differences between IP and PSTN market rationale

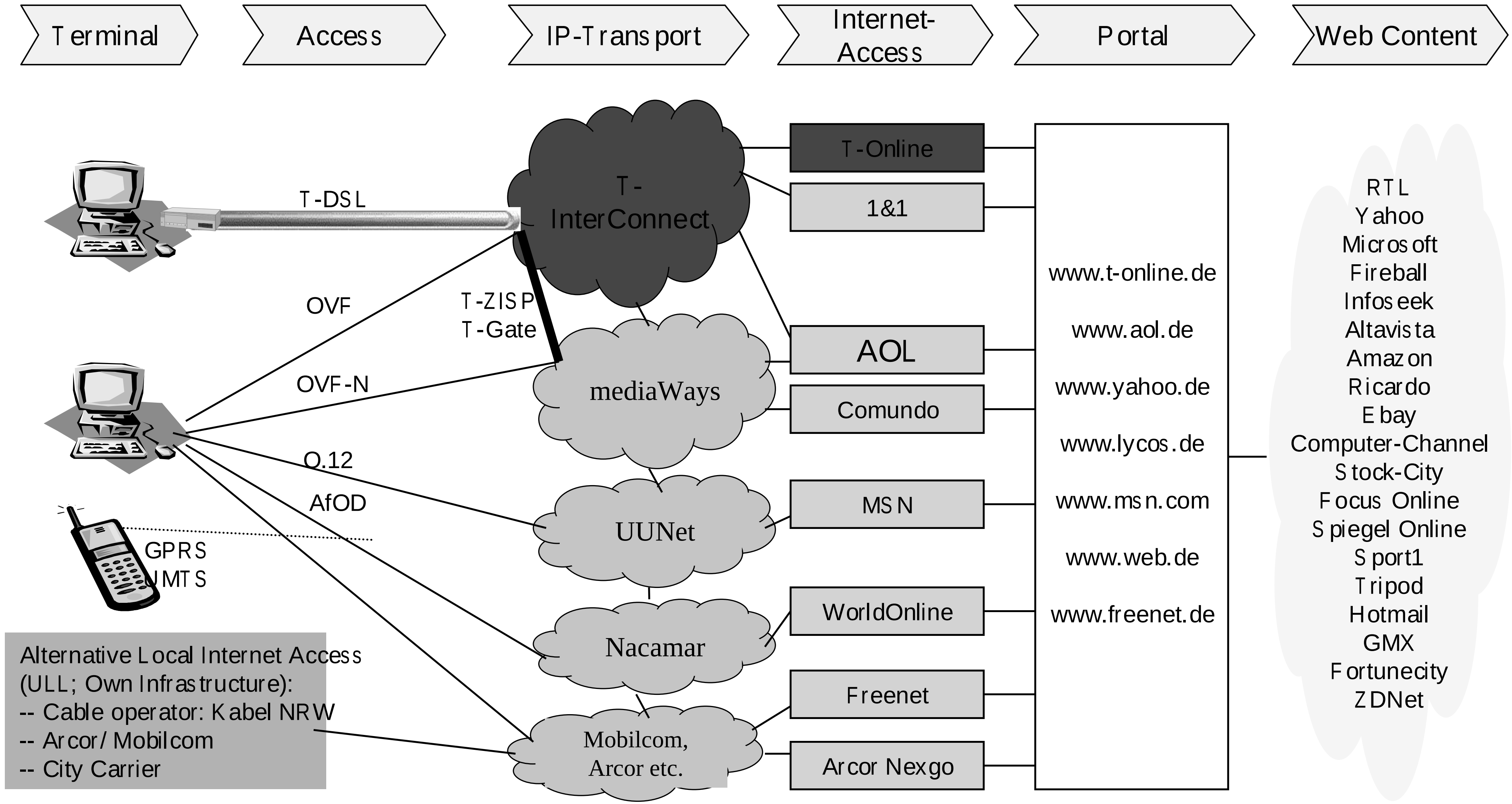
IP Market characteristics:

- Content as the main driver
- Global Business / Dominated by US companies
- Competition on all levels of the value chain
- Quality of Service/ End-to-end controll as success factor
- Convergence

Overall, a pardigm shift in the market is taking place

In this context, the role of network operators has to be reevaluated

# Dynamic Market Development for Internet Services
# - A look at the value chain -



# Incumbents have incentives to offer local interconnection services for internet services

| PSTN Economics | IP Economics |
|---|---|
| ■ Direct Network Externalities through Infrastructure<br><br>➨ dominant Local Access-Provider has no incentives for local interconnection<br>➨ regulatory intervention legitimate, so that all network providers can benefit from direct network effects | ■ Indirect Network Externalities through Content<br><br>➨ all Local Access-Providers have incentives to interconnect with all other IP-backbones, in order to offer unlimited access to content for the end user<br>➨ regulatory intervention illegitimate, market mechanism works |

**The tariff structure of the local internet interconnection portfolio has to follow the market rationale**

# The Flat Rate Fallacy: The Retail Level

Flatrate Retail Offers for narrowband internet services have significant commercial and economical drawbacks:

- Flat rates do not accelerate Internet and E-Commerce
- Flat rate usage does not give any economically sustainable incentives

**The importance of Flat Rates offers is overestimated**

# Flat Rate Effects: The Wholesale Level

There are clear negative effects of wholesale Flat Rate offers

Flat Rate wholesale offers of Network Operator to ISPs have to take these imponderabilities into account by

- finding risk sharing models (investment risks; set-up risks)
- minimising the risk of network overusage
- the price for a Flat Rate wholesale offer cannot be determined by politically „desirable“ retail prices

# The danger of „importing“ regulatory decisions

The dreadful international „domino effect“:

- The British Regulator „broke the ice“
- price and structure of all other European Regulatory Decisions have been benchmarked with the british FRIACO model.
- Severe market distortions due to undifferentiated benchmarking

# The (regulatory) status quo in Germany

- The German NRA („RegTP“) has obliged  Deutsche Telekom to offer a Wholesale Flate Rate (Nov 2000) within a short period of time.

- In March 2001, German Court has reversed the RegTP decision due to a variety of reasons.

- Deutsche Telekom has upheld its unmetered wholesale offer and its initial terms and conditions.

- T-Online withdrew its retail flat rate offering

# The regulatory challenges in the future

The new IP/ Internet Market Paradigm is characterised by

- content-rich players like AOL, who have the key success factor in their hand
- ISPs/ Access providers with a strong customer base as a success factor

In the future competition for the customer, the rules have to be set for a game of equals

Prolonged sector-specific (access) regulation will clearly benefit players like AOL

# Wrap up

Political goals for the Internet are already being met by market forces in Germany.

Incumbents have a genuine incentive to offer local wholesale/ interconnection services.

Experience shows: The Benefits of Flat Rates are overestimated (by politicians)!

Regulatory interventions that aim at dictating terms and conditions of local internet interconnections are superfluous and lead to market distortions

# Back up

# Wholesale Portfolio of DT for Internet Services

Access
Access | Connection to PoP

IP-Transport
Services

Value added
Services

Narrowband

T-InterConnect

Online-Connect

OVF

AfOD

O.12

- Network operations
- Networkmanagement
- Pre-Billing
- Security/Firewall
- Gateway

- Hosting
- Web/e-Commerce
- Email
- Subscribermgmt
- ASP
- Content Management
- Streaming
- Payment/Billing
- Wireless Services
- Online Marketing

Broadband

TICOC dsl

T-Gate

T-DSL-ZISP

= to be offered soon

# DTs local wholesale portfolio: Narrowband

Deutsche Telekom offers the full range of narrowband internet wholesale services which allows for maximum flexibiltiy for ISPs:

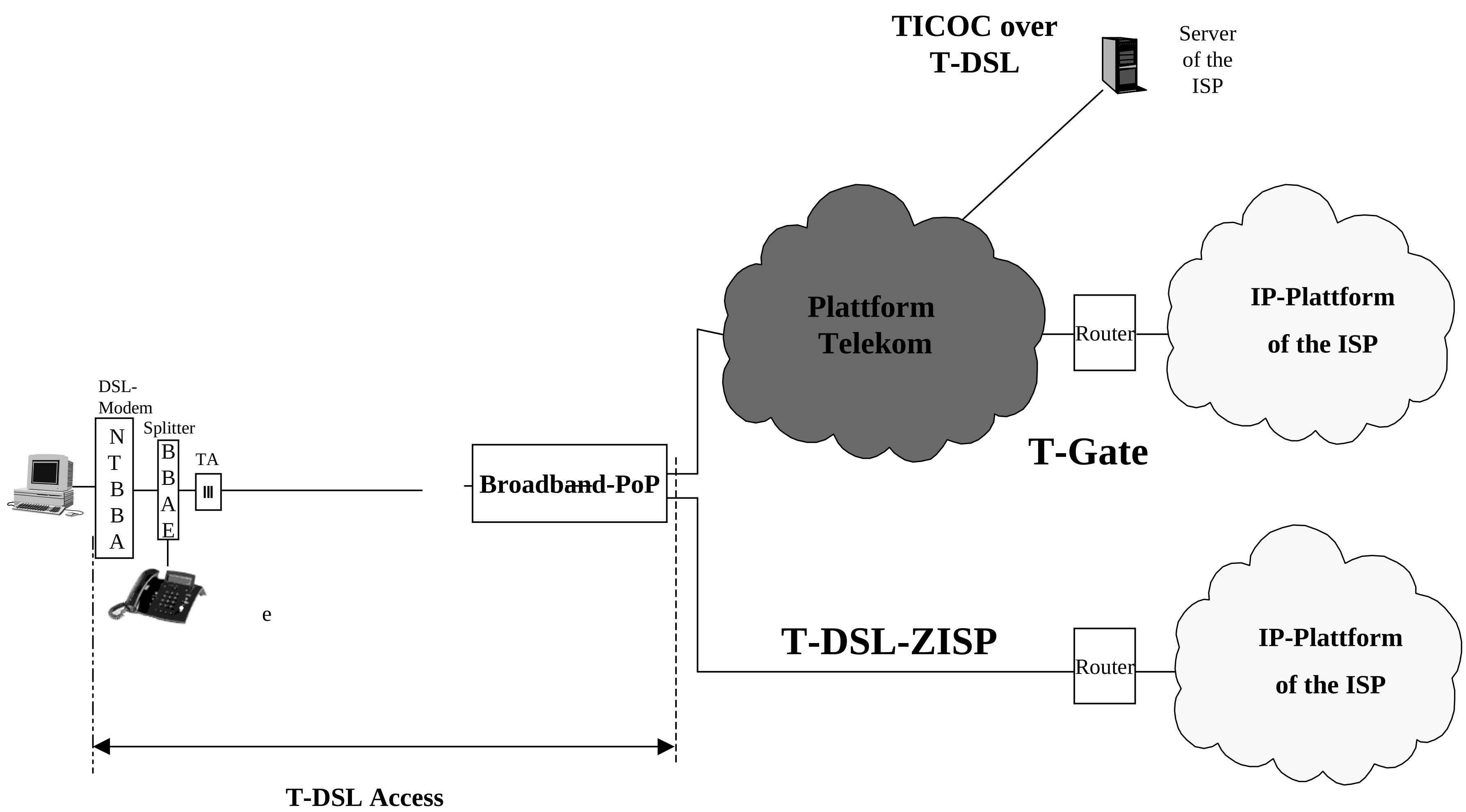
1. Metered Access:

- Per minute offerings for network operators („O.12“)
- Per minute offerings for Service Providers („AfOD“)

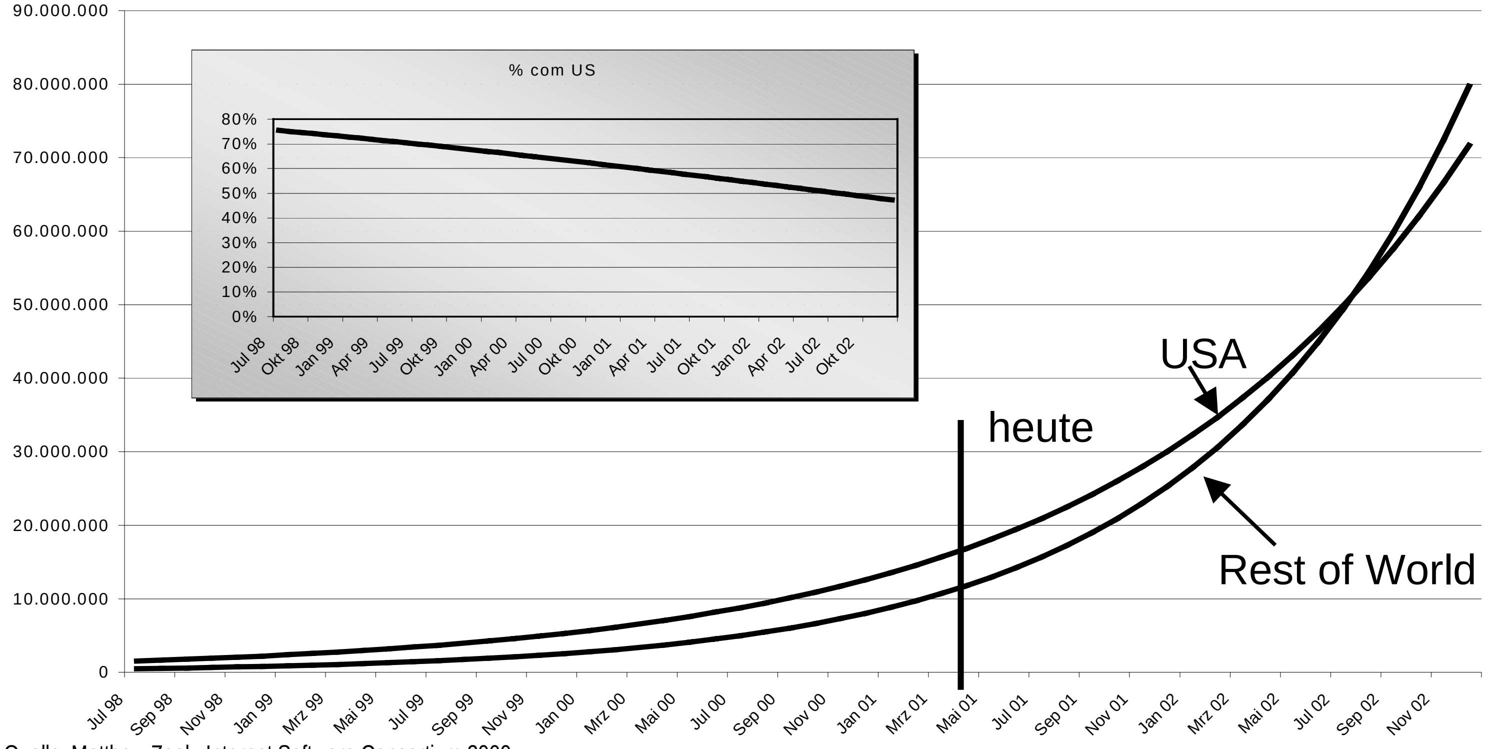
2. Unmetered Access:

- Flat Rate offer („O.V.F.“):

# Planned Broadband Wholesale Service Offerings

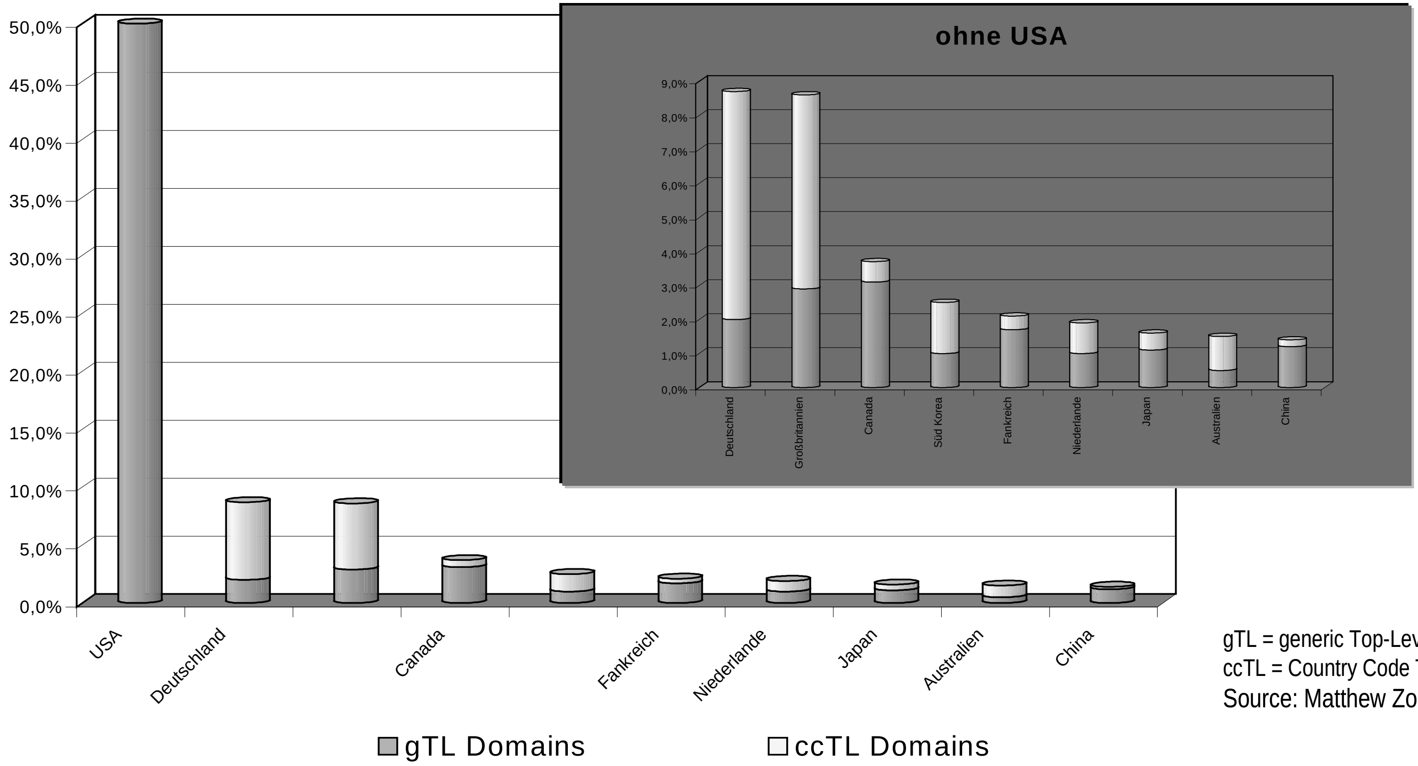


# The USA has a 60% share on .com-Domains and is the most important place for Content Location




Quelle: Matthew Zook, Internet Software Consortium 2000

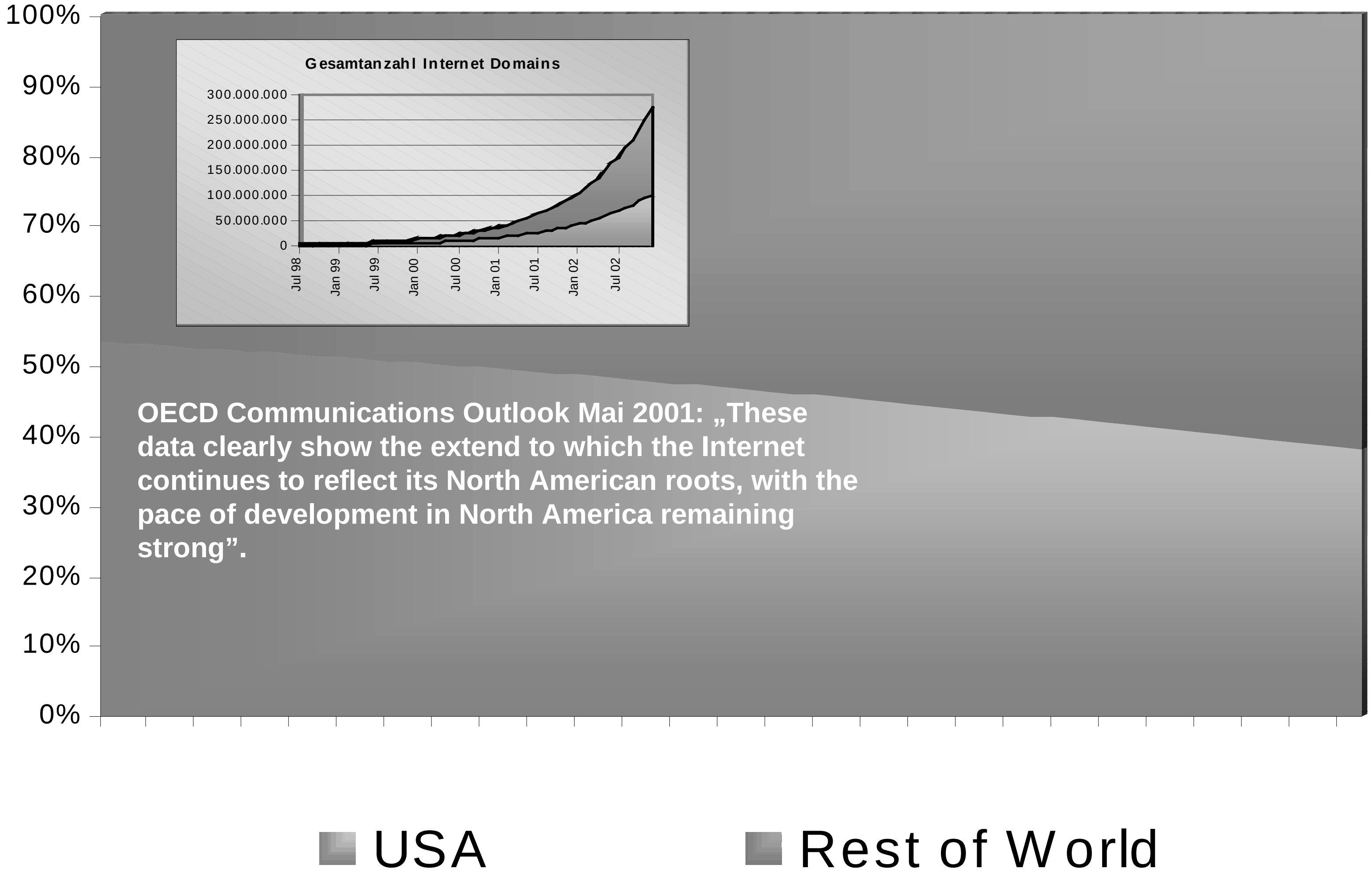
# The Internet is US-centric – 50% of worldwide content is located in the USA




gTL = generic Top-Level Domain (com, edu, org, net)
ccTL = Country Code Top-Level Domain (de, fr, etc)
Source: Matthew Zook, Internet Software Consortium 2000

# The Internet will stay US-centric

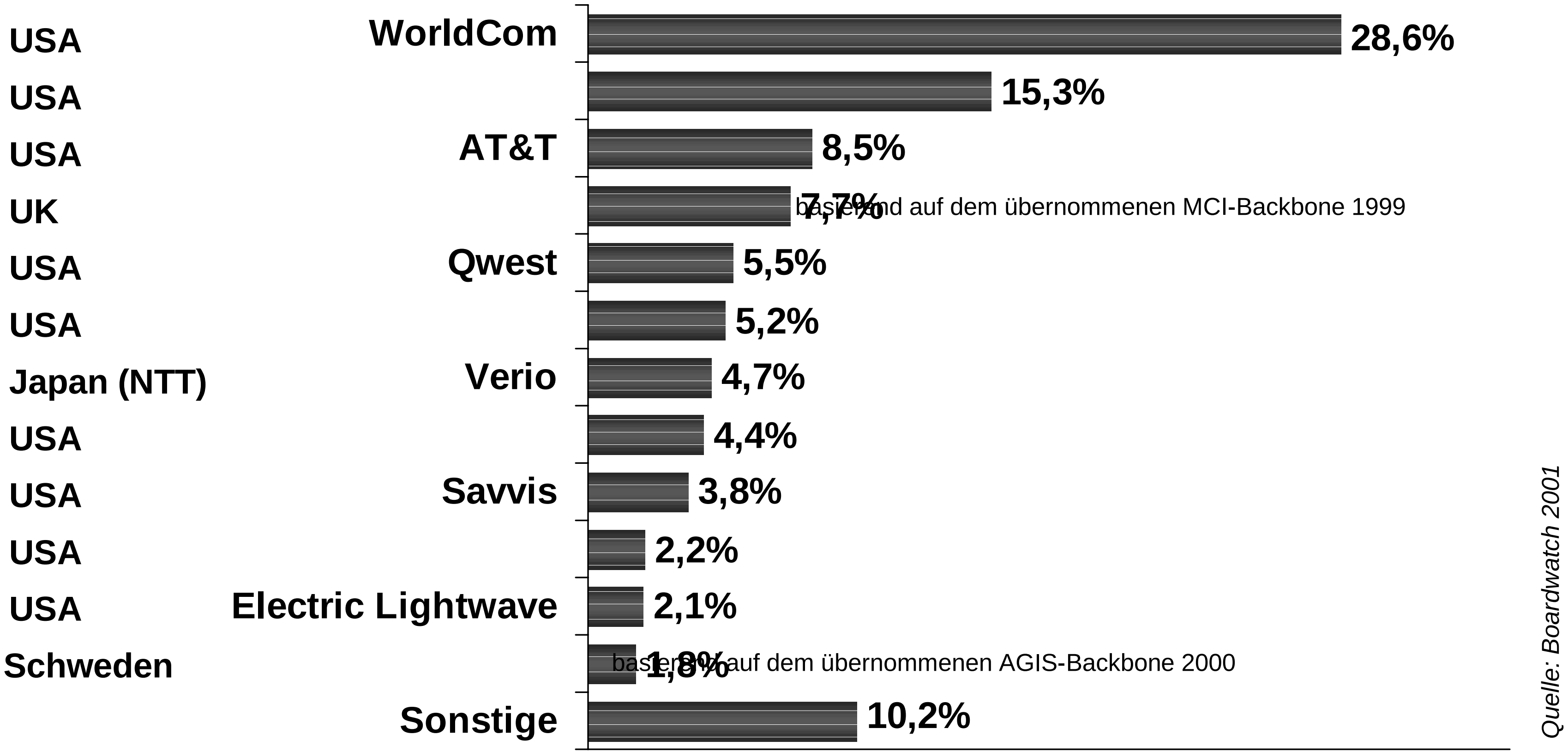
**- relative and absolute Development of Domains in the US and worldwideit -**




Quelle: Matthew Zook, Internet Software Consortium 2000

# Top-Global IP-Backbone Player:

## - Backbone Markttanteile 2000 nach Anzahl der Zusammenschaltungen -




- Die Anzahl der Zusammenschaltungen in den USA wird als Indikator für die Ausdehnung und die Bedeutung eines IP-Backboneplayers herangezogen.